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ABSTRACT

The most critical activity in the planning-programing-budgeting system is the specification and employment of goals and objectives. Program goals are the desired outcomes of a program, but program objectives are the changes in, or the creation of, program elements in a specified way to improve the effectiveness and efficiency of a program. Since only programs, not goals, can be translated into resource requirements and objectives, the entire system of planning, budgeting, and evaluating is dependent on the correct specification of program objectives. In a systems approach to education, programs can be classified, and objectives determined by their various functions, including instructional programs, support and service programs, and management programs. Examples of program objectives for each function are included. (PA)

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GOALS AND OBJECTIVES IN PPBS

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Goals and Objectives in PPBS

by Victor Doherty

Of the many aspects of planning-programming-budgeting, perhaps the most critical and elusive is the employment of goals and objectives in the budget preparing process.

Goals are the basis for all that follow in PPBS, for it is the discrepancy between goal conditions and actual conditions that creates problems in an organization, and it is precisely these problems that require that management formulate objectives and design programs to meet them.

Another way of stating this is that until the desired output (goals) of an organization and of its various components are known, there is no way of telling if objectives and programs are needed to bring about change.

Goals, herein defined as program outcomes, cannot be translated directly into resource requirements. The purpose goals serve in the PPB process is to indicate those desired outcomes which are to be produced through the specification of objectives and the design of programs. It is programs alone that can be translated directly into resource requirements.

In the context of educational PPBS, problems relating to goals fall into several categories:

1. Distinguishing between goals and objectives.
2. Differentiating goals in terms of the functions of an educational system.
3. Achieving a consistent relationship among educational program goals at different organizational levels.
4. Constructing operational definitions for goals and objectives that are exclusively designed for the planning-budgeting process.

These problems will be examined in turn and suggestions will be made which it is hoped will lead to improvements in the use of goals in PPB.

Distinguishing goals from objectives

The literature on goals and objectives has failed to provide definitions that render these terms operable in a PPBS context. There is a distinction that can be made between the terms "goal" and "objective" which is compatible with and in fact strengthens the concepts of PPBS. First, since PPBS is oriented to programs, it is consistent to think of program goals and program objectives. Second, since "management by objectives" implies that program change will result from the setting of objectives and the allocation of resources to achieve them, it seems logical to assign the term program objective to a statement of intent to change program elements in a specified way to improve the effectiveness and efficiency of the program.

Third, since each program has outcomes, usually multiple, and usually stated without reference to time commitments or methodology, it seems logical to apply the term "program goal" to such outcomes.

The use of the term program goal to describe outcomes eliminates the usual difficulty encountered by planners in attempting to distinguish between levels of generality of statements of ends to be achieved. Students of goals and objectives are well aware of these difficulties and of the use of terminology such as "purposes," "aims," "goals," and "objectives" to distinguish levels of generality. Such terminology has led only to difficulties in teaching and learning "planning by objectives." It is assumed here that a goal is a goal (outcome) whether stated in general or specific terms.

For persons conditioned to thinking of objectives in non-program terms (as for example, the "behavioral objective" as defined by Mager

& Beach), the definition for objectives stated above will appear foreign. But the use of objectives in PPBS requires an operational definition to meet the special requirements of planning, programming, and budgeting, and other definitions simply do not meet these requirements.

The distinction between goals and objectives made here, coupled with further distinctions about to be made, is compatible with the requirements of PPB and should give the practitioner a system with which he can work with good effect.

Differentiating goals and objectives in terms of the functions of an educational system

Much confusion exists among curriculum writers regarding the way to state goals and objectives; and the endless variations in style, content, and character and level of generality that are possible in stating a goal or objective certainly explain and to a degree justify this confusion.

There are, however, ways of reducing this confusion, such as differentiating types of goals according to the functions of a system.

The operational definitions and ground rules set forth here are based on an analysis of organizational functions. This analysis assumes that there are essentially three kinds of functions in a school system. The function of instruction, for which the system exists; the function of management, which is needed to control all functions of the system including itself; and the function of support, needed to service the management and instructional function.

All organizational elements of a school system can be classified as primarily serving one of these three functions, and it is possible to establish operational definitions of goals that are clearly differentiated in these terms.

Educational program goals. An educational program goal is a statement of what is to be learned by students as a result of an educational program. It may be stated very broadly or quite specifically. The relationship between educational goal statements at different organizational levels will be discussed in the section that follows.

Support program goals. A support program goal is an outcome of a program that exists in a school system to support the entire system or of one or more of the system's components. Such functions as planning, evaluation, curriculum development, data processing, and public relations are examples of support functions, and programs to carry them out are found in many school systems and even schools.

Two classes of support goals can be identified: service goals, which specify a service to be performed for another unit or units of the system to enable them to reach their goals, and support goals which specify an outcome, the accomplishment of which will support the operation of an entire district, a sub-district, or a school. Support programs such as instructional materials clearly exist to provide goods and services required by educational managers to meet their goals. Such programs should be governed by service goals, which state the recipient of the service and the type and quality of service to be performed.

Illustrations of service goals for an instructional materials program are these:

1. To provide central purchasing services which assure school principals of efficient, economical procurement of such audio-visual equipment as they may order.

2. To provide services that assure principals of efficient procurement and delivery of instructional materials in good condition and at the times specified.

Note that these goals, though they exist only to make it possible for educational programs to attain their goals, still lend themselves to

evaluation. In most instances, evaluation of a service goal is appropriately the function of the unit(s) being serviced.

Support services such as legislative and public relations offices support an entire system. Their goals are ends in themselves (outcomes) and differ in this regard from service goals. This class of goals, called system support goals, is illustrated below:

1. To increase the amount and share of state support received by the district.

2. To secure public understanding of and support for all educational programs of the system.

3. To secure understanding on the part of teachers and the administrative staff regarding the policies and actions of the Board of Education.

Explicit statements of support goals are seldom found in school systems, but as in the case of well-formulated educational goals, such statements can exert a direct and powerful influence on the formulation of objectives and programs.

As in the case of learning goals, support goals represent desired conditions which may not be fully realized. But they provide guidelines which should contribute to the overall effectiveness of the enterprise. They provide points of reference for measuring and reviewing the quality of the school system.

Management program goals. More elusive to define than support goals are management goals. To assist in the effort to do so it might be helpful to define a management program.

Management programs control programs through subordinate managers. The superintendent controls all managers of programs such as assistant superintendents, directors, and principals. Because it lacks direct implementing capability in the programs it establishes, the management program can have no objectives other than those relating to control.

If a management program wishes changes to be made, for example, in a school instructional program it must do so through directives issued to the school principal, who must then set objectives designed to carry out the directive. The budget of the superintendent's office carries no funds for implementation of such a program. The budgets of the school and a set of support services normally will. This explains why objectives involving implementation of anything but central action cannot be stated by a management program.

In general, management program goals will relate to the establishment and maintenance of control processes that are applicable at all levels of management (systems, area, school).

Following are a suggested set of goals by which management at all levels may be evaluated:

Universal Management Program Goals

Efficient and effective organization and procedures will be created and maintained to:

a) establish and periodically review goals for all programs being managed.

b) assess the condition of all programs being managed in relation to their goals.

c) identify problems that represent discrepancies between goals and conditions for all programs being managed.

d) determine problem priorities both within and among all programs being managed.

e) develop plans and alternative plans for the solution of problems selected for attention.

f) select plans and implement programs.

g) evaluate the execution of plans and program outcomes.

All activities of management should be related to these goals; and the objectives of management programs should be aimed at accomplishing them.

Achieving a consistent relationship among educational program goals at different organizational levels

The mission of school systems is education, and the objectives of education are ultimately reflected in what students learn and the behavior they exhibit as a result of learning. The board of education is responsible for approving statements of purpose at the system level. These statements should reflect the expectations of the community and the larger societies of the state and nation regarding the kinds of learning that should result from school experience. Such goal statements, to be of value:

A. Are sufficiently general to encompass all outcomes within relatively few statements.

B. Are expressed in terms of learnings serving the dual needs of the individual and his society.

C. Provide clear direction to program planners in establishing programs and defining curricular goals.

D. Are measurable in terms of broad indicators.

These criteria appear disarmingly simple, when in fact they are very difficult to meet. Just how difficult is seen in the fact that few, if any, school systems make use of such statements systematically in developing programs and curricula within programs. Further, this writer knows of no instance in which attainment of school system goals are systematically evaluated. Examples of system goals are provided below:

> Every child shall respect the rights of every other child regarding his possessions, his physical safety, and the free expression of his ideas.
>
> Every child shall be able to read and to comprehend what is read within unavoidable constraints of ability and physical and mental health.
>
> Every child shall be able to set goals for himself, formulate plans for attaining them, execute his plans, and evaluate his efforts.

> Every child shall attain that level of self-confidence and confidence in others required for personal and social effectiveness in this society.
>
> Every child shall possess sufficient knowledge of the facts and principles of science, technology, government, and human relations to make effective decisions as a person and as a member of this society.
>
> Every child shall be able to communicate with others, both orally and in writing, in a manner that satisfies his own need for expression and the requirements of those under whom he may become employed or receive further education.
>
> Every child shall be able to make effective use of the resources of the school and community in pursuing his learning interests.

It should be noted that these "goal" statements represent a condition in each case that is not likely entirely to be attained; each represents an optimum condition toward which the efforts of the system can be directed. Not until evidence is systematically collected as to the <u>degree</u> to which they are currently attained (baseline data) can changes in goal status achieved through changes in resource allocations be measured.

A second level goal is required to form an elaboration of the meaning of each district level goal. Such goals, which we might arbitrarily designate as <u>program level goals</u>, should be sufficiently comprehensive to provide for the full implementation of the district goals and should be sufficiently precise to provide a basic reference for formulating the goals of courses and other units of educational experience. These goals may be formulated by curriculum specialists at the district, area, or even school level, but probably at only one of these. <u>Program level goals</u> will be used too as a basis for defining the outcomes of an entire area of instruction such as elementary mathematics, secondary school English, or middle school industrial arts. Two levels of goal specification remain as will be explained shortly. Examples of program level goals are:

A. Students shall be able to spell all words enjoying common usage in the English language.

B. Students shall be able to employ elements of structure of the English language appropriately in their oral and written expression.

C. Students shall be able to employ the conventions of punctuation appropriately in written expression.

D. Students shall be able to locate appropriate references in doing research, to document such references according to common conventions, and to employ the findings appropriately in support of a conclusion.

E. Students shall be able to reach conclusions based on the weighing of relevant facts and authoritative opinion, and shall demonstrate ability to alter conclusions where new evidence indicates this should be done.

This second level of specification should be sufficiently general as not to suggest specific grade placement, but as has been stated, specific enough to provide a sound basis for generating the subgoals of the courses and other units of educational experience that will comprise the program.

Up to this point, we have been concerned with an elaboration of the meaning of broad district goals, and this stage is complete at the program level of specification.

The final two stages may be referred to as the implementing stages, for it is here that curriculum goals are translated into specific goals which suggest how instruction should be organized and what resources it will require.

It should be noted that decentralization of responsibility for educational planning uses the program level of goal specification as its point of reference. In large districts, it might be assumed that program goals would be formulated at the central or area level, and in smaller districts at the central level. District evaluation of educational program functioning should be in terms of program level goals.

The proposed use of program level goals imposes great responsibility on those who formulate them. These goals represent the complete interpretation by educators of the broad societal-education (Level 1) goals adopted for the system by the Board of Education. It should be noted that if program level goals do not faithfully represent the meaning of the district goals, it is

entirely possible to attain them without attaining district goals. This phenomenon will be dealt with more fully later.

If one were to start with the district level goal, "Every child shall be able to communicate with others, both orally and in writing, in a manner that satisfies his own need for expression and the requirements of those under whom he may become employed or receive further education" and progress to program level goals which elaborate on the district goal such as "Students shall be able to spell all words enjoying common usage in the English language," "Students shall be able to employ elements of structure of the English language appropriately in oral and written expression," "Students shall be able to employ the conventions of puctuation appropriately in written expression," and "Students shall be able to express their thoughts in writing simply, logically, and in a manner easily understood by others," one would reach that stage where it is necessary to consider how educational programs should be organized best to reach these goals.

The third level of goal specification must provide the basis for organizing educational experiences within schools to accomplish the program level goals. In this process, program level goals will undergo both an elaboration of detail and a differentiation in terms of student characteristics (age, sex, ability, and interest). Typically, these will be the learning goals of courses (high school and departmentalized elementary schools) and of areas of instruction (non-departmentalized or non-graded elementary schools).

In looking at the program level goals above relating to written expression, it will be noted that courses normally offered in school sytems to achieve these goals include spelling, handwriting, language arts, English composition, speech, creative writing, foreign languages, journalism.

Oral and written expression is practiced in other contexts than the courses just described, notably science, social studies, and literature. To bypass the potential that exists for helping students improve their communication skills in all school activities is great waste, yet this potential is poorly realized. If schools were accountable to the district for achievement of program level goals relating to oral and written expression, and evaluation were in terms of these goals rather than the specific behavioral goals of language arts and English teachers only, the probability that the total resources of the school would be used in teaching communication skills should increase. In this case, although the school might have an English "program," the evaluation of the school's effectiveness in producing results in oral and written expression would be judged by the district in terms of the total school impact on these goals.

Course level goals serve as a guide to organizing courses or other units of learning. In PPBS accounting, courses are referred to as activities. Algebra, for example, is an activity within the program "mathematics."

Some further comments might be made regarding course level goals. Traditionally, courses are bound within the covers of a textbook and goals are taken for granted. Traditionally, also, curriculum guides and instructional units have been developed in school systems which present goals and learning experiences. In neither case are goals consistently derived from higher level goals, so it may fairly be said that whatever district level statements of purpose and philosophy exist in no way serve as a guide or directing force in the preparation of curricula at the program and course level.

We must pursue the logic of developing comprehensive goal statements reflecting concern for the current and probable future needs of the young, and the elaboration of those goals in a direct line from the district to the teacher.

It should be noted that the goal elaboration from Level 1 to Level 2 carried with it no recommendation for designing educational experiences.

At Level 3 (course or unit of experience level), it may not yet be advisable to suggest educational experiences which teachers might employ to reach the goals specified, although it has traditionally been done here. Textbooks represent a full prescription of student experiences to be provided by the teachers, but are seldom designed around objectives. Curriculum guides are also highly prescriptive. As a rule they offer sets of learning experiences together with "objectives."

In neither case is the teacher given much credit for being able to create instructional methods appropriate to the needs of the children in a given class or school. Yet the very essence of teaching is combining a thorough understanding of desired outcomes with a perceptive adaptation of methods to help children of many kinds and conditions achieve those outcomes.

It is suggested that any teacher who is provided a set of goals should be able to design learning experiences to achieve them, or else he is not qualified to teach. Any teacher who must rely on a textbook or a highly prescribed curriculum guide is not likely to employ either to good effect. Such an approach could just as well be employed by a person with no teacher education whatsoever, given a modicum of subject knowledge. The thing that should distinguish a teacher from a layman should be an understanding of the needs of children, the motivational aspects of learning, and the devices that may be brought to bear in achieving learning goals. Teachers should also have a greater insight than laymen into educational goals, their origins, their importance, and their function in controlling the organization of learning experiences.

The point of this discussion is to suggest that even at the "course" or "unit of experience" level, it may be best to define learning outcomes without prescribing methodology; for at the classroom teacher level these goals must

still undergo a final translation into behavioral goals and learning experiences. I believe that the most fatal error of curriculum planning has been to assume that teachers should employ the same methodology with all students in their classes, yet that is the implication of the textbook and of many curriculum guides as well.

What is needed at the course level is a very definitive interpretation in goal form of the broader goals of the program (curriculum) level, set forth in a way that recognizes age differences, experiential differences, and interest and ability differences among children.

Assume that a program level (Level 2) goal were stated as follows: "Each child shall be able, where appropriate, to employ mathematical methods in analyzing and interpreting data." Course or "unit of experience" level goals appropriately derived from this goal might be, for young children:

> "Each child, given simple sets of data or problems from which such data can be derived, shall be able to find averages and ranges and to explain the uses and limitations of these measures as they apply to the sets of data provided."

For older children:

> "Each child, given sets of data or problems from which such data can be derived, shall be able to compute the mean, the median, and the inter-quartile range for the sets of data and to explain the uses and limitations of these measures as they apply to the data provided."

Note that even at this level of specificity there is much leeway for the teacher in the selection of specific ways in which these goals may be accomplished. Children of greater and lesser ability may handle sets of data of greater and lesser sophistication.

Problem contexts within which these skills are put to use may be varied according to learner interests. Opportunities to explain their results to

other students can be provided students needing to develop communication skills. Opportunities for strong students to help weaker ones can be arranged to strengthen feelings of self worth on the part of the helper. These examples show how goals relating to values, attitudes, and universal skills may, through adaptations in methodology, be developed as concomitants to the development of specific skills called for in the goals of a course or "unit of experience."

This is where teaching becomes truly an art, and it can become so only if the teacher is not fettered by tight prescriptions as to how she should teach, as with textbooks and overly prescriptive curriculum guides.

The separation of goals into levels of definition that correspond with program budgeting-accounting terminology may be regarded by some as placing impediments in the path of desired program reform. This effect is <u>not</u> a necessary outcome of defining goals as recommended. The program and course numbering systems provided in program accounting make it possible to create and add to the system new programs and units of experiences that should accommodate almost any type of program innovation.

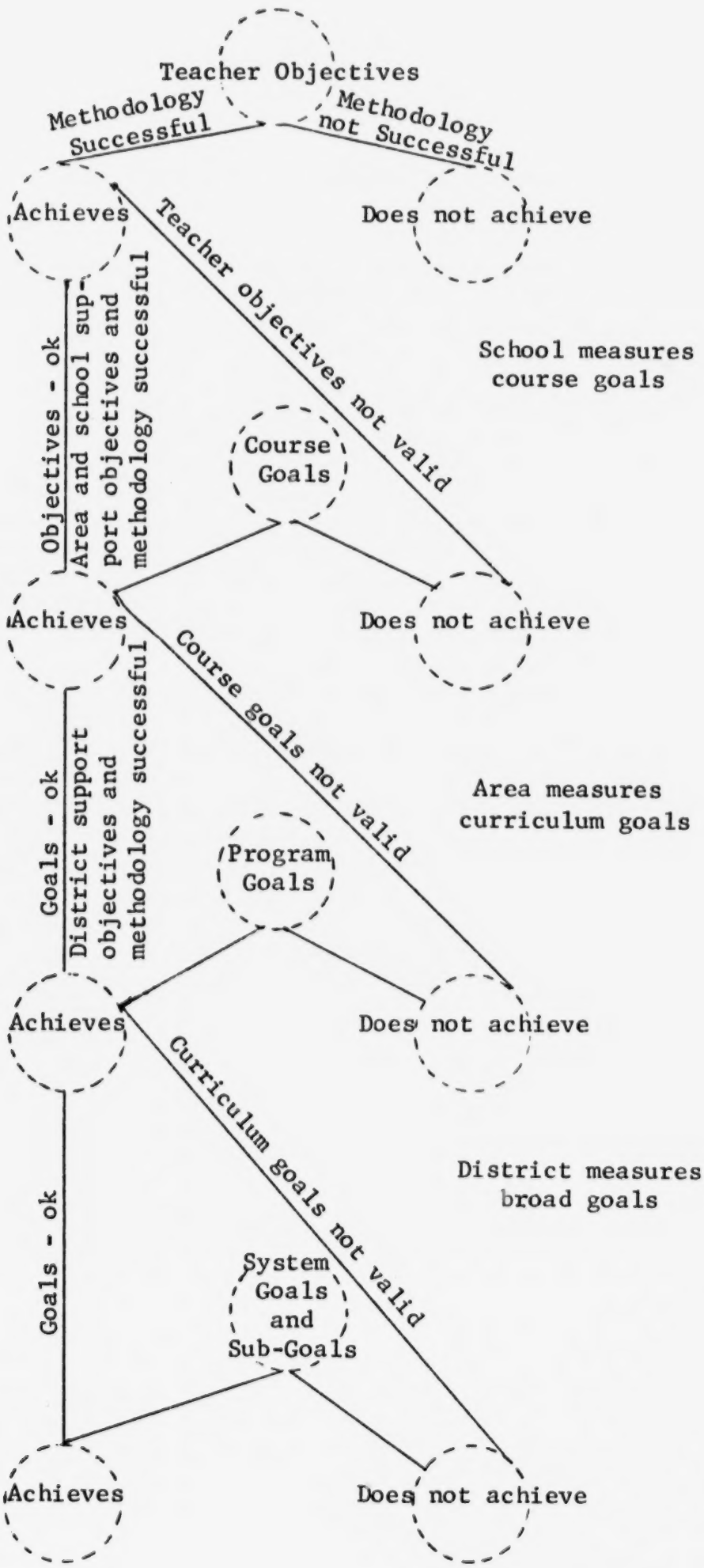
It might also be noted that the measurement of affective and process learning, though it cannot be precisely measured and related to one course or even one program because of the need to plan for such learning across course and program lines, can be effectively measured at the district level. In such areas of affective and process learning as it is agreed should receive attention in all programs, district-level goals may be re-stated at levels that would normally be appropriate for program and course level goals so that teachers of all types of courses could be expected to make explicit provision in their instructional planning to meet these objectives within the varying subject matter contexts they individually represent.

The foregoing discussion may be summarized as follows. First, goal statements at the district level should be formulated which are based on an analysis of the needs of society and the young people being educated. Second, these broad goal statements should undergo at least two elaborations and refinements, one at the program level (wherein each district level goal is represented by several sub-goals from which they are derived) and one at the course or "unit of experience" level, in which a similar elaboration of curriculum goals is undertaken, differentiated according to the age, interests, abilities, and needs of students, and grouped logically for instructional purposes. The level of definition of these goals should be sufficiently precise as to leave no doubt in the mind of teachers what learning outcomes they should attempt to achieve.

Third, through these two levels of successive refinement of district goals, no instructions as to methodology would be prepared. This task rightfully belongs to the teacher, who makes the final translation and who must plan not only to achieve the specific goal in question but in the process employ methodology that will achieve as many concomitant goals as ingenuity permits. This final act of curriculum design cannot be preempted at a higher level because there is no way the needs of students and the strengths of the teacher in a given classroom can be anticipated.

Accountability would be possible at three levels, if goals were properly set forth and appropriately related at all levels: broad indicators could be employed at the district level; more specific criteria at the area or school (curricular) level; and very specific criteria at the course (unit of experience) level. Measurement of teacher objectives would be assumed to be the responsibility of the teacher, not the district. The logic of the system would be as follows:

Levels of Evaluation



Goal Examples
(Affective and Cognitive)

(No further refinement of the program level goal required for effective programming by the classroom teacher.)

Alternative: Every child shall be able to multiply a series of decimal numbers selected by diagnostic tests as appropriate to the skill level of each child.

(No further refinement of the course level goal required for effective programming by the classroom teacher.)

Alternative: Every child shall be able to multiply whole numbers, decimals, fractions and signed numbers.

Every child shall acquire confidence in communicating with other children and with the teacher in seeking and giving assistance in mathematics.

Alternative: Every child shall be able to perform the functions of addition, subtraction, multiplication, and division.

Every child shall attain that level of confidence in self and others required for social effectiveness.

Alternative: Every child shall be able to perform those mathematical operations required for personal needs and, within constraints of ability, to perform mathematical operations required in essentially non-mathematical, non-scientific occupations.

The diagram on "levels of evaluation" is designed to illustrate the basic accountability structure of a PPB system. That structure consists of a goal structure and corresponding levels of evaluation.

Viewed from the standpoint of goal formulation, the flow of the diagram is from bottom to top; viewed from the standpoint of accountability, the evaluation sequence flows from top to bottom.

The diagram suggests levels of educational goal formulation for a large school system decentralized into areas. In this type of school system, broad goals would be stated at the District level, program level goals at the area level, course (or other unit of educational experience) level goals at the school level, and objectives at the instructional level (the distinction between objectives and goals, for PPB purposes, will be clarified in the section that follows).

The distinction among goals (district, program, course) are distinctions relating to level of generalization, not distinctions in essential character. In fact, the test of a good goal structure is the consistency that is retained in the essential character of the broadest (most generalized) statement as it is subdivided as needed to clarify programming requirements to meet it.

As the diagram "Levels of Evaluation" shows, an important function of measurement in an educational system can be to provide a means of checking the validity of goals at various levels of accountability (district, area, school, teacher).

Starting with the teacher, this diagram shows that objectives based on course goals are employed by the teacher, and her own testing procedures will tell her whether or not her objectives have been reached. If this is found to be so, but measurement at the course level reveals that the learning goals of the course have not been

attained, the objectives of the teacher do not truly interpret the implementation requirements of the goal.

At the next level, if course goals are measured and found to have been achieved, but measurement of the program goals from which the course goals were derived reveals that the program goals have not been met, the course goals do not represent a valid interpretation of the program goals.

The same interpretation may be applied when comparing evaluation results at the program and district level.

It will be noted that measurement criteria at each level must be valid with reference to the goals of that level if the process just described is to function right.

It will also be noted that school systems without a goal structure of the type described (and this includes most if not all school systems today) have little basis for constructing a system of accountability of the type described. The two essential ingredients for accountability in a system whose mission is education is a consistent, valid goal structure, and a consistent, valid measurement program. And the second cannot exist without the first.

That is not to say that school districts do not have goal structures; most do. But they have not been derived from comprehensive district-level goal statements which have been derived in turn from a systematic analysis of needs to be met through public education. Instead, they come from the disciplines or subject fields and from other educational vested interests. Those goal statements that are published by boards of education seldom if ever undergo systematic translation into programs, and seldom exert much influence on entrenched curricular goals.

As conditions exist, accountability must be restricted to the attainment of those goals that currently operating programs of instruction are based upon, and the system described in the diagram must be truncated at the program goal level. In fact, as conditions now exist, the distinction between program goals and course goals is not clear, though measurement as represented in standardized tests is more often program-specific than course-specific.

In terms of reality, it cannot be proposed that school managers could, even if they desired, establish a consistent goal structure of the type described and then redesign their programs, courses, and educational experiences to be perfectly consistent with this goal structure.

But it does appear possible to create such a goal structure along with the procedures and organizational provisions needed to maintain and revise it. It should also be possible to revise programs in ways that will help achieve those goals for which no (or inadequate) program provisions exist.

Differentiation of program objectives in terms of functions

To review briefly, program objectives (sometimes referred to as program change objectives) are here defined as statements of intent regarding how programs are to be changed to more efficiently or effectively achieve their goals. Such statements should explain the reason for the action, the most essential program elements involved in the action, and the time the action is to be completed. Provisions for evaluation should be noted.

Program objectives are a planned management action that requires budget resources. This distinguishes objectives from goals, for a goal suggests no immediate action and tells one nothing about resource allocation.

A program objective should tell enough about the goal (or other objective) it is designed to reach, enough about program requirements, and enough about time requirements to give those who are preparing budgets the capsule overview needed to judge the importance and rationality of the action proposed in relation to the cost involved.

Supporting detail should, in the budgeting process, spell out the program that has been designed to meet the objective, all resources required, and the detailed cost of those resources.

It is useful in classifying program objectives for PPBS first to create categories that correspond to the major functions of an educational system. This is desirable because the character of objectives varies with function.

For the sake of simplicity, we shall think of school systems as having three major functions, already referred to in the discussion on goals. There are (1) the function of education, (2) support functions required by an educational system to perform its primary functions, and (3) management functions. Thus we may designate three major program objective categories: educational, support, and management.

Within each of these major categories we can identify two additional classes of objectives, those relating to efficiency and those relating to effectiveness. Since a single objective may have implications for both efficiency and effectiveness, the categories are supplementary rather than discrete.

It might be noted that objectives in educational systems in the past have related almost exclusively to effectiveness. Although efficiency has been regarded as a constant goal of management, the formulation of objectives relating to efficiency and the design of programs to achieve them has seldom been a practice of educational managers. By

designating a category of objectives as "efficiency objectives" we may focus more concern and effort on attaining efficiency in school management.

Category 1:
Educational Program Objectives

Subcategory A:
Objectives Relating to Effectiveness

Objectives may be classified as relating to effectiveness if they state an intent to:

1. Expand a program to serve more students where the need exists.
2. Change a program better to achieve existing goals.
3. Change a program better to achieve existing goals on the part of a special student population.
4. Create a program to achieve new learning goals.

Evaluation Requirements

The evaluation requirements for each type of objective are different. In the case of an objective stating an intent to expand a program to serve more students, the measurement criterion is self-defined. If the program is expanded to serve the additional students specified, the objective has been reached. It should be noted, however, that to meet the criterion of effectiveness, this expansion must take place with no adverse effect on learning goal attainment on the part of all served by the expanded program when compared with goal attainment before the expansion. This requires a monitoring of achievement before and after the expansion.

In the case of program change designed better to achieve existing goals, measurement would be based on normative criteria reflecting achievement of students under the old program.

In the case of program change designed better to achieve existing goals on the part of a special student population, the same criteria would be used, but derived only from the performance of the special student population in question (slow learning, gifted, etc.).

In the case of programs created to achieve new learning goals, new measurement criteria must be created, and it is well to include the development of such criteria as part of the program objective statement itself. Measurement of the effects of such a program must, in the first year, be expressed in terms of achievement on an absolute scale. After that, each year will provide further data for establishing a sound normative base which will permit the measurement of effects of subsequent program modification.

Following are examples to illustrate each of the four types of objectives described:

Expand a program to serve more students where the need exists:

1. To extend choral music to all students in high school desiring to sing rather than only to those demonstrating aptitude, keeping special choral ensembles for those of greater aptitude. Program change to be effective in the _____ school year.
2. To add sufficient sections of Art I to accommodate all students desiring to take this subject in the _____ school year.
3. To expand the shop programs in all high schools to include the six basic shop programs of the District. Buildings are to be constructed not later than January, 1972, personnel employed not later than March 15, 1972, and equipment installed and operating not later than June 30, 1972.

Change a program better to achieve existing goals:

1. To implement the IPI individualized mathematics program in grades 1-4 in order to increase the level of mathematics skills of all pupils in those grades as measured by District criteria. Planning to be completed by _____, materials ordered and on hand by _____, teachers trained and oriented by _____, and the program in operation in the school year _____.
2. To reduce by 50% the time spent on formal study of linguistics and increase the time spent on experience writing and analysis in English I an equivalent amount in an effort to increase writing effectiveness as measured by District criteria. Curricular study and revisions to be completed by _____, teacher orientation by _____. Program to be in operation by _____.
3. To develop a program to increase the sensitivity of teachers in _____ School to the psychological needs of children and to increase their ability to provide for these needs in their personal relations with students and in their classroom practices. Planning of in-service experiences to be completed by _____, criteria for measuring effectiveness of the program to be ready by _____, in-service education of teaching staff to be completed by _____.

Change a program to achieve better results on the part of a special student population within an existing goal framework:

1. To deploy the time of remedial reading teachers on the basis of 75% service to classroom teachers and 25% service to individual children in order to focus more effort on the prevention of reading problems. Results to be measured by District reading tests applied to students now having reading difficulties. Planning to be completed by _____, retraining of remedial reading teachers by _____, orientation of classroom teachers by _____, and the program operating in all schools in the school year _____.
2. To develop and implement a student tutoring program in grades 5-8 designed to help mathematics students of limited ability achieve higher levels of mathematics skills. Results to be measured by District mathematics tests applied to students of all ability levels. Program planning to be completed by _____, in-service education of math teachers in grades 5-8 by _____. Program to be in operation in the _____ school year.
3. To develop and implement a program of individual project learning to meet the needs of students in _____ High School with highly specialized interests in science. Program design, including evaluative criteria, to be completed by _____, field tested by _____, and in operation by the _____ school year.
4. To develop a performance-based, success-oriented, oral and written language program for students in grades 5-8

in Area II whose classroom performance and performance on standardized tests indicates they are not satisfactorily meeting district goals of oral and written expression. Program development to be completed and ready for field testing by September, 1972.

Create a program to achieve new learning goals:

1. To develop a program that will help children become better able to evaluate the separatist philosophies to which black children in particular are now being exposed. This program will be designed for children pre-school through grade 8. Developmental work will be completed and the program ready for field testing by _____.

2. To design and implement a program for grades K-4 to increase the value children place on respect for the feelings of others and on the unique qualities of every child. Developmental work will be completed by _____, and criteria for measuring the effectiveness of the program by _____. Field testing will be carried out in three elementary schools during the school year _____, in-service education for all teachers in grades K-4 completed in the school year and summer _____, and the program extended to all schools in the school year _____.

Subcategory B:
Objectives Relating to Efficiency

Objectives may be classified as relating to efficiency if they state an intent to:

1. Serve more students in an established program at no increase in cost and without loss of learning effectiveness.
2. Attain the goals of an established program at less cost and without loss of learning effectiveness.
3. Achieve new learning goals at no increase in cost without impairing attainment of established goals.

Following are examples to illustrate each of these types of objectives:

Serve more students in an established program at no increase in cost and without loss of learning effectiveness.

1. To reorganize the business education typing program using taped instructions, a rotating teacher schedule, and student aides to permit another 50 students who desire to take typing to do so at no additional program cost.
2. To reorganize the freshman speech program by reducing student-teacher contact time by 25 percent in order to offer the program to approximately 25 percent more students. Methodological adjustments will be employed such as use of students in monitoring and evaluating speeches of other students.

Attain the goals of an established program at less cost and without loss of learning effectiveness.

1. To develop and implement a combination staffing-tutoring-self learning program for teaching reading

in grades K-3 of _____ School that will cost approximately 10 percent less than the current program, with no loss in reading achievement.

2. To develop and implement a physical education program for _____Elementary School using student assistants that will achieve the physical education goals of the District at a cost not to exceed 75% of the cost of the current program.

Achieve new learning goals at no increase in cost and without impairing attainment of established goals.

1. To incorporate into the health education program activities designed to inform students of the personal and social consequences of drug use, using the services of the health supervisor and a community health advisory committee. Program to be effective in the _____ school year, with the health supervisors to conduct after-school orientations for health teachers in each area.
2. Using the mathematics supervisor and department heads, respecify mathematics goals for grades 5-8, reexamine math courses and programs as they relate to these goals, and reconstitute the math program to increase student performance.

Category II:
Support Program Objectives

As in the case of educational program objectives, support program objectives state an intended action involving resources.

It should be understood that the resources required by the operating units of an organization are often requisitioned (or recruited), processed, or otherwise provided by support units. Thus, resources specified to meet the program objectives of operating units may impose upon a support unit the need to generate its own program objective stating the intent to supply the resource in question.

From a budgeting point of view, it will be seen that resources needed for operation should first be identified by the operating units, then summed for the entire system to clarify what will be required of support units. For example, the personnel needs of all operating units must be specified in their own budgets, then aggregated so that the personnel division knows what recruiting and processing it must do. Similarly, equipment and supply needs must be specified by operating units and summed across the system to enable support units such as the Instructional Materials Department to determine the services it must provide in a given year.

School principals, as a rule, do not prepare entire school budgets though they do submit personnel and other needs that are used by area or central administrators in compiling a system budget. Under program budgeting, the school constitutes a unit of responsibility, and the principal can exercise certain options with funds allocated to his school. This requires the maintenance of a budget and the specification of resources required to operate each program. Many of these resources are supplied by support units.

Under line-item budgeting, these support units often budget amounts for supplies and equipment and exercise considerable control over how these are allocated to schools and other units of organization. By controlling budgets they exercise significant control over school programs.

Under program budgeting such service units do not budget resources to allocate as they see fit. Instead, resources are budgeted at the school level where the principal employs them to meet the school's program goals. Under this arrangement, budgeted resource needs of operating units are summed to form service packages to be performed by support units.

The support units then specify whatever objectives are required to supply the resources specified in the budgets of educational units, and determine the resources they (the service units) require to perform the specified services.

In addition to those requirements imposed on a support unit by educational units, requirements may be imposed by other support units and by management units. For example, management may require services from its evaluation unit in measuring the effectiveness of other units.

So a support unit may budget funds for the personnel, supplies, and equipment needed to process and deliver personnel, supplies and equipment to educational units, and it may also budget funds for the personnel, supplies and equipment required to supply personnel, goods and services to management and to other support units. A third potential budget requirement for a support unit is the cost of improving its own service in one way or another.

It appears useful to classify as service objectives those objectives relating to providing goods and services to educational, management and other support units within the organization.

Theoretically, it should be possible to generate most of the budgeting requirements of support units directly from the requirements of the other units they serve. Actually this would require a more exact determination of goods and services to be provided than could be anticipated at the time of budgeting; and it is not realistic to assume that a support unit can expand and contract annually to reflect fluctuations in demands for goods and services, unless such changes are of significant size and duration.

Typically, a support unit will have continuing, established service responsibilities to several programs, and the budget required to service these programs is arrived at through experience over a period of years. It is only where significant changes occur in service requirements that re-evaluation of the resources required to provide the service becomes necessary. Such occasions occur when new programs are initiated by programs being serviced which create unusual demands on a support unit. When this happens, it will be noted that objectives set by other units may create a demand for new service objectives on the part of one or more support units of the school system.

In the normal course of events, where a unit is performing a routine service function, evaluation may reveal deficiencies that may require the setting of service improvement objectives by that unit. Improvement make take two forms: increased effectiveness or increased efficiency.

As in the case of educational programs, support programs must rely on a performance measurement base and cost accounting to monitor their effectiveness and efficiency. Evaluation of the effectiveness of service units logically should emanate from those units receiving the service in question. Evaluation of efficiency is a direct function of management.

Where new responsibilities are placed on a service unit by the creation of new programs, evaluation of effectiveness should logically emanate from those units initiating the new programs.

Following are illustrations of Support Program Objectives:

Category II:
Support Program Objectives

Subcategory A:
Service Objectives

This class of objectives expresses intent to provide a specific service or set of services that have not previously been provided by the support unit to another unit of the system. Again it will be noted, an objective for budget purposes is required only where resources to provide the service exceed those previously budgeted. It should be noted that within certain limits it may be possible for a support unit to increase services at no added cost. Where those limits are reached it will be necessary for the unit to formulate a service objective requiring added budget or a service improvement objective stating how the service is to be changed to increase its efficiency (see Subcategory B: Service Improvement Objectives)*.

Examples of Service Objectives

1. To order, process, and distribute the physical education equipment required to implement the newly adopted District physical education program for grades 1-8. Ordering to be completed by _____, processing and distribution by _____.

* It is possible for incremental growth of service needs of existing programs to result in the need for additional budget resources. In such cases, requests for additional budget would be justified in terms of statistical evidence of growth in service load or costs rather than on the basis of a new service objective.

2. To purchase, process and distribute to 25 elementary schools a set of library books and materials that will bring them up to the elementary library standards of the District. Purchasing to be completed by _____, processing by _____, and distribution to the schools by _____.
3. To conduct the research needed for the development of a revised middle school program, including curricular and school facilities considerations, and to complete a report to the Superintendent not later than _____.
4. To design, test, and implement a pupil accounting system for grades 5-8 to include attendance, registration, and cumulative record system. Attendance and registration system to be designed by _____, field tested in three schools by _____, debugged by _____, and implemented in all schools by the school year _____. Cumulative record information system (including test data) to be designed by _____, field tested in two schools by _____, debugged by _____, and ready for implementation in all schools in the school year _____.

Note that the first two objectives relate to a service in the sense of supplying needed physical resources, the next in the sense of supplying needed information, and the last in the sense of preparing a system. The unifying quality of these objectives is that the service rendered in all cases is a prerequisite for the attainment of objectives of other units in the organization.

Note that <u>service objective</u> statements do not include reference to the programming required to achieve the objective or to evaluation as do <u>educational program objectives</u>. Where an <u>educational program objective</u>

is stated, it is desirable to incorporate reference to major programming elements, because one aspect of evaluating the merit of the budget request is evaluating the logic of the proposed program. Where service objectives are concerned, however, the programming elements will normally consist of simply adding personnel, equipment, and supplies to get the job done, and the budget forms of the service unit will reveal what these additions are.

However, in stating a service improvement objective, program elements will again be needed in the objective, if they can be useful in helping the budget reviewers assess the viability of methods proposed for achieving greater efficiency or effectiveness. Criteria to be used in evaluating the efficiency and/or effectiveness of the proposed change may also appropriately be included in the statement.

Subcategory B:
Service Improvement Objectives

This class of objectives expresses intent to change a service in a specified way in order to increase the efficiency and/or effectiveness of that service.

Examples:

1. To decrease the time required to deliver city-wide test results to principals from three weeks to one week after answer sheets are submitted by changing from a _____ model test scoring machine to the new _____ model. (Criterion to measure attainment of objective is self-defining.) Change to be effective for _____ school year.
2. To provide a new service in program design to area directors and principals by employing a curriculum design specialist who will be available on call to

these personnel. Effectiveness of the service will be evaluated through procedures developed by the research and evaluation division. Service to be in effect beginning _____.

3. To produce printed materials for the central administration at two-thirds of the current unit cost (including allowance for amortization of the new equipment) by discarding outmoded and inefficient linotype equipment, replacing it with modern offset equipment, and reorganizing the work force.

4. To improve the morale and efficiency of lunchroom personnel by instituting a communications program including a ten-week series of meetings between cooks and supervisors to discuss and exchange views on problems and needs of lunchroom programs. Workshops to be planned by _____ and held during the period _____ to _____. Evaluation will be conducted by the Department of Evaluation.

Subcategory C:
System Support Objectives

This class of objectives expresses an intent to change a system support program in order more efficiently or effectively to achieve one or more system support goals. (A system support goal is an outcome the accomplishment of which will benefit the operation of the entire system.

Examples of System Support Objectives

1. To organize a campaign of public information that will insure passage of a bonding program in the amount of 50 million dollars for the completion of the first phase

of the middle school building program. Plans to be completed and reviewed by the Board by _____. Review and final plans to be completed and approved by the Board not later than _____.

2. To discontinue the services of the law firm presently representing the district and to employ a full-time attorney to handle the legal affairs of the system. Attorney to be employed by _____. Effectiveness of the new arrangement to be evaluated by the Evaluation Department.

Subcategory D:
School Support Objectives

This class of objectives expresses an intent to change a school support program in order more efficiently or effectively to achieve one or more school support goals. (A school support goal is an outcome the accomplishment of which will benefit more than one program of the school or the entire school.)

Examples of School Support Objectives

1. To convert from manual to data processing procedures in grade and attendance reporting. Development and testing of programs to be completed by June, _____, and new system to be operating in September, _____. Evaluation to be conducted at the conclusion of the first full year of operation with the assistance of area evaluation office.
2. To arrange for an in-service education program for all teachers in the school regarding the specification of behavioral objectives, using resource personnel from the administration building and the Northwest Regional Educational Laboratory. Program to be conducted three hours

one night a week for 11 weeks fall quarter. Evaluation to be conducted with the assistance of the District evaluation office.

Category III:
Management Program Objectives

This class of objectives represents statements of intent to modify management programs in order to achieve management goals more efficiently or effectively. (Management goals are statements of control functions required for the efficient and effective management of a system including goal-setting, assessment of system condition in terms of goals, identification of system problems represented by the discrepancy between goals and actual conditions, determination of problem priorities, planning for the solution of problems, implementing plans, evaluating the execution of plans, and evaluating the results achieved by plan execution.)

It will be noted that many of the functions listed are support functions. It should be carefully noted that management responsibility is for the establishment and maintenance of these functions, and the discharge of that responsibility will often include setting up units of organization that are delegated responsibilities for discharging one or more of these functions. When such an organizational unit is formed, it becomes a support (or educational) unit which must generate support and service goals consistent with its "reason for being" in the organization.

The establishment (or modification) of organizational units to perform the management functions named earlier requires a manager to specify a management program change objective if the change requires an increase in or a noteworthy reallocation of funds within his own management budget.

It should be carefully noted that the establishment of a new unit of organization within a system requires a management program change objective

only if it affects the budget of the manager. The instant a new program exists and is assigned a budget, its immediate manager becomes responsible for generating and attaining goals consistent with higher management goals, and for program objectives required to meet them. The establishment of that program by higher management will require a management program change objective only if the budget of the higher management unit is affected.

It is necessary for management to have objectives in establishing new programs, but we are concerned here only with objectives that affect budgets. Management objectives outside this context are clearly necessary but are not a concern of this system.

Examples of Management Program Change Objectives

1. To decentralize the administration of the school system by creating three area superintendencies with complements of 5 administrators and 2 specialists per area. The present central organizational structure is to be reorganized to eliminate all functions that can logically and feasibly be assigned to the area administrators. Studies preparatory to reorganization to be completed by _____, Board approval secured by _____, reorganization initiated by _____, and completed by _____. Effectiveness of the new organization to be evaluated by a newly created Evaluation Department, with periodic reports to the Superintendent.
2. To add to the area administrative teams the position of specialist in planning to provide principals and other members of the area administrative team increased assistance in the mechanics of plan formulation and execution. Specialist to be employed and working by _____. Effectiveness of position to be evaluated by the area superintendent with the assistance of district and area evaluation personnel.

Note that the two management program change objectives cited above represent extremes of program change: one is far-reaching and the other limited, but both have an impact on management program budgets.

Supporting Detail

In the preceding discussion of program change objectives, illustrations have been purposely abbreviated. In any budgeting process when such objectives are used, supporting detail should be provided concerning the rationale for the proposed program change, the tasks required to complete the change, expected dates of completion, objects of expenditure, criteria to be used in evaluating the program goals the change is expected to influence, and evaluation procedures that will be used.